

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (Currently Amended) A heat exchanger device for a gas seal ~~(1)~~ for a centrifugal compressors characterized in that compressor, the device comprisescomprising:  
a fluid heat exchanger ~~(3)~~ positioned between the gas seal of the compressor and ~~the a~~ housing wall of said seal; and  
at least one inlet duct entering through the fluid heat exchanger and configured to supply a blockage gas to the gas seal, wherein the fluid heat exchanger is configured  
~~(1)~~ to keep the temperature of said seal ~~(1)~~ low in the case of high temperatures of the wall and/or compressed gas.
2. (Current Amended) The exchanger device according to claim 1, wherein said exchanger ~~(3)~~ is a circular exchanger suitable for enveloping said seal ~~(1)~~.
3. (Currently Amended) The exchanger device according to claim 1, wherein said exchanger ~~(3)~~ extends between said seal ~~(1)~~ and a supporting flange ~~(2)~~ of said seal ~~(1)~~.

4. (Currently Amended) The exchanger device according to claim 1, wherein said exchanger ~~(3)-further~~ comprises:

at least one inlet opening; ~~(4)-and~~

at least one outlet opening ~~(6)-~~connected to each other by a coiled path ~~(8)~~, said path for flowing a cooling liquid through said exchanger device.

5. (Currently Amended) The exchanger device according to claim 1, wherein said seal comprises at least one inlet duct (7) and said at least one inlet duct passes through the centre of the exchanger.

6. (Currently Amended) The exchanger device according to claim 1, wherein the exchanger ~~comprises~~ is configured to receive a cooling liquid ~~that further comprises water.~~

7. (New) The exchanger device according to Claim 4, wherein the coiled path completely encloses the gas seal.

8. (New) The exchanger device according to Claim 1, wherein the fluid heat exchanger is configured to reduce a temperature of the gas seal.

9. (New) The exchanger device according to Claim 1, further comprising:  
a shaft configured to rotate inside the fluid heat exchanger.
10. (New) The exchanger device according to Claim 9, further comprising:  
an impeller attached to the shaft.
11. (New) The exchanger device according to Claim 10, further comprising:  
a centrifugal compressor including the impeller.
12. (New) The exchanger device according to Claim 1, wherein the fluid heat exchanger is configured to reduce a temperature of the gas seal from more than 200°C to around 100°C.
13. (New) The exchanger device according to Claim 6, wherein the cooling liquid is water.